

Rec'd PCT/PTO 27 JUN 2005

10/539534

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/539,534

Source: PG 1/10

Date Processed by STIC: 6/27/05

ENTERED



PCT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/539,534

DATE: 06/27/2005

TIME: 10:26:42

Input Set : A:\082368-004800US.txt

Output Set: N:\CRF4\06272005\J539534.raw

```

4 <110> APPLICANT: Umeda, Kazuaki
5     Matsui, Takeshi
6     Nakayama, Mayumi
8 <120> TITLE OF INVENTION: HIGHLY EFFICIENT GENE TARGETING VECTORS
9     AND METHODS FOR GENE TARGETING IN EPITHELIAL CELL LINES
12 <130> FILE REFERENCE: 082368-004800US
C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/539,534
C--> 14 <141> CURRENT FILING DATE: 2005-06-17
14 <150> PRIOR APPLICATION NUMBER: PCT/JP03/16549
15 <151> PRIOR FILING DATE: 2003-12-24
17 <150> PRIOR APPLICATION NUMBER: JP 2003-076877
18 <151> PRIOR FILING DATE: 2003-03-20
20 <150> PRIOR APPLICATION NUMBER: JP 2002-371621
21 <151> PRIOR FILING DATE: 2002-12-24
23 <160> NUMBER OF SEQ ID NOS: 1
25 <170> SOFTWARE: FastSEQ for Windows Version 4.0
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 7046
29 <212> TYPE: DNA
30 <213> ORGANISM: Mus musculus
32 <400> SEQUENCE: 1
33 cgcctgagtt gccgcgcagc gctctgcccg ccgacggcac gtctctcggc ggccgcgcgt 60
34 tccggggaag ttacgtgcgg gaggaggctt tggaggagac gcccgagggt gtaggggaca 120
35 gccggaggcc cgggtactgc ggagcggcga gccggcggag gccggcggag gccgagcagg 180
36 cggccgggtg tgccccgcgg agaagcccgg gcggggcgga cgcttcccgg acttttgtcc 240
37 cacttgaatc cctccccgtt gggccgggcc tttccggcct cccccgcccc tgccccgctc 300
38 gtccccggga gatgtttatg cggacgggtg cgtgaggagc gggcggggcg gcggcgcgga 360
39 gtttcgggtc cgaggagctt cgcgcggcgc ggagagagac aagatgtccg ccaggggccgc 420
40 ggccgctaag agcacagcaa tggaggaaac agctatatgg gaacagcaca cagtgcgct 480
41 tcacagggtc cctgggtttg gatttggaat tgcaatctct ggtggaagag ataatcctca 540
42 ttttcagagt ggggaaacct ccatagtgat ttctgatgtg ttaaaaggag ggccagctga 600
43 aggacagcta caggaaaatg accgagttgc aatggttaac ggagtttcaa tggataacgt 660
44 tgaacatgct tttgctgttc agcagctaag gaagagtggg aaaaacgcaa aaattactat 720
45 ccgaaggaag aagaaagtgc agatccctgt aagtcaccca gatcctgagc cgggtgtctga 780
46 taatgaagac gatagttagt acgaagaagt gcatgaccca agagctggcc gcggtgcttt 840
47 agcgaacaga aggagcgaga agagctgggc aagggatagg agtgcaagca gggagaggag 900
48 cctgtccctt cgctcggaca ggcgggtccg ggcctccagt cagcccgcaa agcccaccaa 960
49 ggtcacactg gtgaagtctc ggaaaaatga agaatatggt cttcgaccgg ccagccacat 1020
50 atttgtaaag gaaatttcac aagatagttt ggcagcaaga gatggtgaca ttcaagaagg 1080
51 ggatgttgct ttgaagataa atggtactgt gacagaaaat atgtcattga cagatgcaaa 1140
52 aacactgata gaaaggtcta aaggcaagtt aaaaatggta gtgcaaagag atgagcgggc 1200
53 taccttactg aacgtccctg acctttcgga tagtatccat tctgctaata cctcggaagg 1260
54 agatgacatt tcagaaattc agtcactagc gtcagaccat tcaggctcgct cgcagacag 1320

```

RAW SEQUENCE LISTING

DATE: 06/27/2005

PATENT APPLICATION: US/10/539,534

TIME: 10:26:42

Input Set : A:\082368-004800US.txt

Output Set: N:\CRF4\06272005\J539534.raw

```

55 gccaccccg cgcagccagt cagcatctcc tgaccaacgt tcagagccct ccgatcattc 1380
56 cagcagctct ccacagcagc ccagcaatgg cagtctccgg agcagagagg aagagcgaat 1440
57 gtctaaacct ggggccatct caactcctgt aaaacatgta gacgatcatc cacccaaagc 1500
58 agtggaagaa gttacagttg agaaaaatga gaagcagacg cccactcttc cagaaccgaa 1560
59 acctgtgtat gctcaagttg gacaaccaga tgtggattta cccgtcagcc cttctgatgg 1620
60 tgcctgcctt aattcagctc atgaagacgg gatacttagg cccagcatga aactggtaaa 1680
61 attcagaaaa ggagatagtg tgggtttgcg actagctggg ggaaatgatg tcggaatatt 1740
62 tgtagctggc gttctagaag atagccctgc agccaaagaa ggcttagagg aaggtgatca 1800
63 aattctcagg gtgaacaatg tagatttcac aaatatcata agggaagagg ccgtcctttt 1860
64 cctccttgac ctccctaaag gtgaagaagt gaccatactg gctcagaaga agaaggacgt 1920
65 ttatcgccgc attgtagaat cagatgtagg agattcattc tatattagaa cgcattttga 1980
66 atatgaaaaa gaatctcctt acggacttag ttttaacaaa ggagaggtgt tccgggtcgt 2040
67 ggatacttta tacaatggaa agctgggctc ttggcttgcc attcgaattg gcaaaaatca 2100
68 taaggaggta gaacgaggca tcatcccaaa taagaacaga gctgaacagt tagccagtgt 2160
69 acagtacaca cttccaaaga cagcgggtgg tgatcgggca gacttctgga ggtttcgagg 2220
70 tcttcgcagc tccaagagaa atcttcgaaa aagcagagag gacttgctag ctccagccagt 2280
71 tcaaactaag ttcccagctt atgaaagggg tgttcttcga gaagctggat tcctaagacc 2340
72 tgtaaccatc tttggaccaa tagctgatgt tgccagagaa aagttggcaa gagaggagcc 2400
73 agatatctat cagattgcaa aaagtgaact acgagacgct gggactgacc atcgtagctc 2460
74 ttggcatcatt cgccttcata caataaagca aatcatagat caggataaac atgctttatt 2520
75 agatgtaacg ccaaatgcgg ttgatcgtct taattatgcy cagtggatc caattgttgt 2580
76 gttccttaac cctgactcta agcaaggtgt aaaaacaatg aggatgaggt tgtgtccgga 2640
77 gtctcggaaa agcgccagga agctatatga acgctctcat aagcttcgta agaacaatca 2700
78 ccatctcttc acaactacaa ttaacttaaa ctcaatgaat gatggttggt acggtgcctt 2760
79 gaaagaagcg attcagcagc aacagaacca gctgggtgtg gtctctgagg ggaaggcgga 2820
80 tgggtgctaca agtgatgacc ttgatttgca tgacgatcgt ctgtcctacc tgtcagcccc 2880
81 aggtagttag tactcaatgt atagcacgga cagtagacac acttctgact atgaagacac 2940
82 agatacagaa ggcggggcct acactgatca agaactagat gaaactctta atgatgaggt 3000
83 ggggactccc ccggagtctg ccattacacg gtcctctgag cctgtaagag aggattcctc 3060
84 tggaatgcat catgaaaacc agacataccc tccttactca ccacaagcgc agccacaagc 3120
85 tattcataga atagactccc ctggacttaa gccagcctct caacagaaag cagaagcctc 3180
86 atctccagtc ccttaccttt cgcctgaaac aaccccagca tcatcagcct ctgcagttaa 3240
87 tcataatgtc agtgtaacta atgtcagcct ggaggagcct gcccagccc ctcccacctc 3300
88 gcacgcatca cagcctggtt gtttaggagc accaagtgtc gaggcagctc acgtaggtct 3360
89 cagaggtgaa ggaccacat tgccgcgcga tgcagaccca gcaaaggtgt acaggaagga 3420
90 gccatattct gaagaaatga tgagacaaaa ccatatttta aaacaaccag ctcttggtca 3480
91 ccagggcag aggccagata aagagccaaa tctagcctat gaacccaac ttccatatat 3540
92 agaaaaacaa gccagcagag accttgagca gccgtcatac aggtatgagg tctcaagcta 3600
93 cacagaccag ttttctcgga actatgacca tcgcctacgg tttgaagatc gaatccctac 3660
94 ctatgaagac cagtggatcat attatgatga caaacagccc taccaacctc ggctttttga 3720
95 gaatcagcat ccccagagac tggactccag acaacatccc gaagaggctt cagaacgagg 3780
96 ttattttccag cgtttttgaag agccagcccc tctgtcgtac gacagtagaa cacgctatga 3840
97 gcagctgctt cgaacctcta ctctacgaca tgaagagcag ccagcccctg catatgaggt 3900
98 gcacaacagg tacaggccag aggcacagcc ctattcttca acaggcccta agtcatctga 3960
99 gcccaagcag tactttgacc agtaccgcgc aagttatgag caagttccac caccaggctt 4020
100 tacctccaaa acaggccatt acgagcctct ccatgggtgt gcagttgtcc ctctctgat 4080
101 accttctctt caacaaaagc cagaagtctt gcgctcgggt accaaaccac agcctccacc 4140
102 cccaacccta actgaggagg agggagatcc agcaatgaaa ccacagtctg tgctcaccag 4200
103 agtcaaaatg tttgaaaaca aaagatctgc gtctttggag aacaagaaag atgtgaatga 4260

```

RAW SEQUENCE LISTING

DATE: 06/27/2005

PATENT APPLICATION: US/10/539,534

TIME: 10:26:42

Input Set : A:\082368-004800US.txt

Output Set: N:\CRF4\06272005\J539534.raw

```

104 cactgccagc ttcaagcctc cggaagtagc atctaaacct ccagggtgctt ctcttgctgg 4320
105 ccctaaacct gtccctcaga gtcagtttag tgagcacgac aaaacgctct acaggctccc 4380
106 agagcctcag aaacctcaag tgaagccacc cgaagatatt gttcgatcaa atcattacga 4440
107 ccctgaagag gatgaagaat attaccggaa acagctctcc tactttgacc gaagaagttt 4500
108 tgagagcaag ctttctgcac atcttcctgc tggccatcac tcagagcctg ctaagccagt 4560
109 ccattctcag agccagccca acttccctag ttactcttca aagggaaaac ccgaaactga 4620
110 tgctgtggat agatcattca gtgagaaacg ttatgatcca gccagggcca cgctcctcc 4680
111 tcctccgttg ccctcacagt acagccagcc agctccacct ctgtccagct cttctctcca 4740
112 catacattcc aagggcgccc aggggtgaagg caactcagta tcattggatt ttcagaactc 4800
113 atatatgtcc aaaccagacc ccccccatc tcagagtaaa ccagcaactt tcagaccacc 4860
114 aactcgagaa gacccccctc agactttcta tccgcagaaa agtttcccag acaaagctcc 4920
115 agttaacgga gctgagcaga ctcagaaaac catcactccg gtgtacaatc gattcacacc 4980
116 aaagccgtac acaagttctg cccggccatt tgaacgaaa tttgaaagtc cgaagttcaa 5040
117 ccataatctt ctgccaaagt aaactgtaca taaacctgaa ttgtcttcaa aaactccac 5100
118 ttccccaaaa actcttatga aagctcatag ttcaacacag cctccagagt ttggcagtg 5160
119 agttgaaact ttctctgttc acacagataa gcctaaatat caaatgaata atatcagcac 5220
120 catgcctaaa gctgtccctg tgagtcttcc agctgtggaa gaagatgaag atgaggatgg 5280
121 tcatactgta gtggctacag ctcggtggcat ttttaacagc aatgggtggg tgttgagttc 5340
122 catagaaacc ggtgtttagta taattatccc acaaggagcc attcctgaag gaattgagca 5400
123 agaaatctat ttcaaagtct gcagagacaa tagcattctc ccacctttag ataaagagaa 5460
124 aggtgaaact ctgctgagcc ccctagtgat gtgtggggcc catggcctca agttcctgaa 5520
125 gcccggtggag ctacgcttgc cacactgtga ccctaaaacc tggcaaaaac agtgtcttcc 5580
126 tggagatccg aattaccttg ttggagccaa ctgtgtttct gtctgattg accactttta 5640
127 attcttagtg tataggaact ggactaagca atgtgaacgt ggattgaact tactaaatct 5700
128 aaatggaacc actctaata gtattatatt ttcttagaat ttatactgca attggtagta 5760
129 ttaagcattt gttggaactg atgaagggtta gcgagcatgc ccctgagcca cggtcagaaa 5820
130 gcatgctaca agctatgtgt tattgagtga agaactgtca ggcattggct agaggttcaa 5880
131 agatattttt gctttgtaat gatttttgta cttttttatg gtcactgctt aacttcacat 5940
132 actgatttcc gttaaaaata ccagccagta aatgggggtg catttgagtt ctgttcttcc 6000
133 caaagtacac tcaaagttta ttatggcctt ggccatagcat acacatttta ttttattata 6060
134 catgaggtaa tgtgcacaca ttttttacia atgcacctgg aatatataac cagtatagtg 6120
135 gatttaacag aaatgtacag cagggggatt tataacttgg ggagggaggg tcaaataag 6180
136 acaattactt attgtatatg aaaacacatt tcttttaggg aaggacacca aagcatgtga 6240
137 gcccggttca tggcctctga atctataaat taacatatca ccacagacat gtaaccagca 6300
138 ggaatgcctt accctagtgg gtttaattct tccatcattt cgctgtgtat tactaagttt 6360
139 ttatgagttc tgtgcatatc tagatactgt accatggaaa agactgagta gattgtggac 6420
140 ttgatggttt cagaaatgtg caaattacct ggaagaaaat aatgggtgtg cttaaaatat 6480
141 ttttttgaca gggggagtgg cagtcttctg ttctttgggc tgtgcatctg agatgtttga 6540
142 tgctttcagg acgcatgtac ataatgcgtg cataccactt ttgttcttgg tttgtaaatt 6600
143 aacttttata aactttacct ttttatacat aaacagaacc aagtttctaa ggctaccttt 6660
144 gtattctctc ctgtacctct tgagccttga actttgacct ctgcagcaat aaagcagcat 6720
145 ttctacacat acaaggctcat ttttctaaga aaaagaatgc acagagttgt tacattttta 6780
146 agtgctgcat ttaaaagata cagttactct agtttgatta aattcttgca aagtatccct 6840
147 tctgtaaaat ttgtgatata atactgtgcc ctaaagtgt tttttttact aatagacagt 6900
148 ttattatggc acatcagcac gatttctgtt tagataatac accactacat tctgttaata 6960
149 atcagtaggt gtgaaaggat ttcttttgtg gttattaaaa aaaaatctca aatttctaaa 7020
150 tctgcaagaa taaaactttt taaaat 7046

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/539,534

DATE: 06/27/2005

TIME: 10:26:43

Input Set : A:\082368-004800US.txt

Output Set: N:\CRF4\06272005\J539534.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date